M/021/004

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Beaver River Resource Area
365 South Main Street
Cedar City, UT 84720
(801) 586-2458

3809
UT-044

October 4, 1993

Mr. Gary Gamble
Hecla Mining Company
6500 Mineral Drive
Coeur d'Alene, ID 83814

Dear Mr. Gamble:

Our resource area and district personnel have reviewed the proposed modification to the tailings impoundment cover at your Escalante Unit. This proposal was submitted to the Division of Oil, Gas and Mining last May.

We would be more than pleased to have less surface disturbance of public lands. There are several concerns, however, with the impoundment cover as proposed.

According to previous investigations, rooting depth appears to be about 14 inches. You are proposing a total topsoil/subsoil depth of 14 inches with some of the waste rock layer available for roots as well. If the rock barrier serves as a suitable capillary barrier, it should be too dry for proper rooting.

Annual average precipitation in the area for soil moisture replenishment is 5.8 inches from October to April. An increase of the subsoil layer to a minimum of 18 inches would increase the total plant medium to 24 inches. The available water capacity of 24 inches of sub and top soil would be about 4.5 inches. This would be adequate to absorb the precipitation average noted above. This would be an increased available water capacity of 2 inches over a 14 inch layer (based on 0.18 in/in of soil or 2.2 in/ft of soil--the average for a clay loam texture).

We would request that the subsoil layer be increased to 18 inches to insure the adequate amount of soil moisture necessary for a healthy vegetative cover.

If the material is available, it is also requested that the thickness of the waste rock layer be thickened to increase the effectiveness of the capillary barrier. This may not be necessary but would further insure against percolation into the tailings. We would also request any information available describing the chemistry of the waste rock.

The waste rock to be used as a capillary barrier was described as being gravel size (2 mm to 3 in). The rock layer needs to have

adequate pore space size in order to be effective. It is recommended that a considerable amount of cobble sized (3 to 10 in) material be used, and that fines (less than 1 mm) be adequately screened before deposition of the rock layer.

We request your response regarding these concerns. Please feel free to contact Gina Pack at this office if you have any questions.

Sincerely,

Arthur L. Tait

Arthur L. Tait
Area Manager

xc: Wayne Hedberg, Division of Oil, Gas and Mining